INFORMATION LETTER

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N.C.A. Publishes Bulletin Describing How To Process Low-Acid Foods in Glass

Bulletin 30-L, entitled *Processes for Low-Acid Canned Foods in Glass Containers*, is being distributed by the National Canners Association to the canning industry. Copies were mailed to all N.C.A. members this week.

The bulletin has been prepared to satisfy an increasing demand for authentic information on processes to be used for low-acid foods packed in glass containers. Much of the basic data was developed in the Laboratories of the National Canners Association in a cooperative research project sponsored by the Glass Container Manufacturers Institute. This project involved an extensive investigation on the heating rates of bentonite suspensions in glass jars and tin cans of comparable sizes, and the preparation of experimental inoculated packs of various products in both types of containers.

Process suggestions given in Bulletin 30-L are in general based on heat penetration data obtained by the National Canners Association and the glass container manufacturers. Where such information was not available, factors were used for converting processes for cans to processes for glass jars. These factors were developed from the data obtained on bentonite.

Prefacing the list of processes are recommendations with respect to proper retort equipment and its operation for best results. A thorough understanding of these recommenda-

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Nutritive Values of Canned Foods Highlighted at Press Conference

CHICAGO, Ill., Nov. 10—The nutritive values of canned foods were highlighted and dramatized today at an exhibit and press conference staged by the National Canners Association and attended by about 50 representatives of the Chicago and national newspaper press. Planned by Carl Byoir and Associates, whose services were made available to the Association through the courtesy of the American Can Company, the exhibit and the press releases issued to the visiting journalists consisted of presentations of the findings of the six-year program on canned foods nutrition which has been sponsored jointly by the N.C.A. and the Can Manufacturers Institute.

The press representatives were special writers selected from the ranks of Chicago newspapers and national wire services. Among them were business page writers, science writers, food editors, and general news reporters. On arrival at the N.C.A. Press Room in the Palmer House each press representative received a kit of publicity material containing factual articles covering various aspects of the nutrition program and its findings. The press releases were prepared in such a manner as to point up the general news significance, science significance, business page significance, women's page significance and national defense significance of canned foods nutrition. In the Press Room the reporters were shown a series of special exhibits consisting of the following:

1. A large wall map presenting the national scope of the nutrition survey, with blown-up action photos of the directing scientists in the laboratories of the nine universities where nutrition grants have been placed. The map also showed, by colored areas, where samples were taken and stored.

2. A laboratory technician was conducting actual vitamin C assay tests in one corner of the press room using actual laboratory apparatus. Above his work table were mounted large blown-up photos depicting three of the types of tests used in the studies.

3. A display of cans of the 42 products thus far studied in the nutrition program. These cans bore spe-

Supplies of Canned Fruits Almost Will Equal 1947-48

The 1948-49 pack of commercially canned fruits may approximate 2.5 billion pounds, the equivalent of about 57 million cases of 24 No. 2½ cans, the Bureau of Agricultural Economics reports. This would compare with a 1947-48 pack of about 2.7 billion pounds or 62 million cases.

The packs of various fruits are smaller this season than in the 1947-48 season, BAE notes, with the largest decreases in pears, apples, and applesauce. On the other hand, packs of a few fruits are larger, notably those of apricots and red sour cherries.

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CUMMING SAYS CONSUMERS SEEK QUALITY CANNED FOODS

Motion Picture on Labeling Shown For First Time at Meeting of Wisconsin Canners

People in the United States are buying more high quality canned foods than formerly, and this buying practice has acted as an incentive to American canners to improve the quality of their output, it was stated this week by Howard T. Cumming, President of the N.C.A., who was chief speaker at the annual convention of the Wisconsin Canners Association in Milwaukee.

Press releases intended to achieve widespread publicity for statements of the N.C.A. speakers about the selling qualities of canned foods were prepared and mailed to wire services and to newspapers in Wisconsin, just as the N.C.A. sent out releases to Florida papers a month ago for the

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cially-printed labels showing the established nutrient content of each of the 42 commodities. Panels of additional descriptive material were mounted above each can.

4. A two-part exhibit displayed on its left panel a dozen or so of the chronological highlights in the development of nutritional knowledge, from Appert through Pasteur and other discoverers, up to the current N.C.A.-CMI program, and on its right panel the parallel growth and uptrend of canned foods consumption. This was to demonstrate the relationship of scientific knowledge and improvement to the public acceptance and consumption of canned foods.

5. Mounted on an easel were specimens of about 30 of the scientific papers that have come out of the nutrition program; copies were made available to the press.

For the preparation of the above material, as well as the facts utilized in the press releases, Secretary Carlos Campbell named the following committee of supervisors to represent the Association and the industry: Dr. E. J. Cameron, Director of the Washington Research Laboratories; Nelson H. Budd, Director of the Information Division; and Dr. R. W. Pilcher of the American Can Company, who also is a member of the N.C.A.-CMI Nutrition Committee. Various phases of the project called for special assistance from the Home Economics, Information and Statistics Divisions of the Association as well as a major contribution of work from the staff of the Washington Laboratory and the Maywood Laboratory of American Can Company. Coordinating and organizing the material into exhibits and press releases were the following staff members of the Byoir organization: Stuart Hall, Lyman J. Seeley, George Saunders, and Warren Cromwell.

A total of $2,113,000 in actual currency, under armed guard, was brought to the Palmer House in an armored caravan under special protection furnished by the Chicago Police Department. It was used as a figurative demonstration of vitamin values and depicted the amount of money estimated as representative of the value of vitamins in the 1948 pack (more than 42 canned fruits, vegetables and seafoods).

To dramatize the fact that a substantial part of this value is lost if the housewife pours the liquids off the cans, the money was photographed, piled in a kitchen sink, by newsreel and newspaper photographers. The $2,113,000 in currency was made available as a public service by the American National Bank & Trust Company of Chicago.

"Mrs. America of 1948" (Mrs. Maria Strohmeier, 21-year-old housewife of Philadelphia, recently chosen as "Mrs. America" at Asbury Park, N. J.) attended the press conference, and helped the scientists pass along to the 45,000,000 American housewives some of the important new diet information unearthed during the quarter-million dollar research program on the nutritional values of canned foods.

The program of the meeting of the N.C.A. Board of Directors also was planned to coordinate with this special publicity of canned foods nutrition. On this November 12 program Dr. Cameron will review the nutrition work, Chairman W. B. Olney of the Public Relations Committee and Secretary Carlos Campbell will describe the nutrition publicity program; President Howard T. Cumming will report on the National Security Resources Board and the luncheon speakers are to be Lt. Col. Joseph S. Kujawski, commanding officer of the Food and Container Institute of the Armed Forces, and Dr. C. A. Elvehjem of Wisconsin University, discoverer of niacin and a collaborating scientist in the N.C.A. nutrition program. All of these men, except Dr. Elvehjem, were participants in today's press conference. Most of the questioning was on the scientific significance of the nutrition findings and Dr. Cameron was the spokesman for the Association and the industry, assisted by two other members of the Nutrition Committee who were present: Dr. J. Russell Esty of the N.C.A. West Coast Laboratory and Dr. L. E. Clifcorn of Continental Can Company.

Following are the various press releases issued at the press conference today:

General News Significance

YEARLY LOSS OF MILLIONS BY HOUSEWIVES IS LINKED TO FAULTY COOKING METHODS

Scientists Investigating Canned Food Minerals, Vitamins, Plead That Women Stop Wasting Fluids

A six-year research program to determine the nutrients contained in various canned foods led experts here today to estimate that, unless American housewives benefit from recent scientific findings, they will pour millions of dollars worth of food-value down the kitchen sink during the next twelve months.

Reporting to the Board of Directors of the National Canners Association on canned food research that has been carried out at nine universities since 1942, Dr. E. J. Cameron, chief scientific adviser of the industry association, said that during the next year housewives will spend about $4 billion for more than 20 billion cans of food.

"But," he said, "unless the results of recent research can be made widely known and women can be made aware of the high concentration of vitamins and minerals that are contained in the liquid portion of canned foods, especially vegetables, there is every reason to believe that huge quantities of the carefully preserved nutrients will be discarded or improperly utilized."

The scientist declared that "fantastic" losses of food value also are to be anticipated in many types of home cooked raw foods, "due to the fact that canneries maintain rigid standards of quality and processing procedure, all designed to turn each can into a miniature pressure-cooker and capture every possible element of food value, while much home cooking, in contrast, destroys essential vitamins and minerals to an unnecessary degree through over-heating and dispersal into discarded cooking-water."

The result of housewives' failure to benefit from newly discovered canned food data, he said, would be that 45,000,000 American families, already hardpressed to get the most out of their food budgets, might fail to get their full share of the minerals and vitamins that are contained almost as richly in the fluid portion of canned vegetables as in the solid portion. "It is imperative," the scientist urged, "that recent scientific findings be brought to housewives throughout the country, so that they will have a fair chance to avoid such stupendous and totally unnecessary waste." He emphasized that the quarter of a million dollars which the canning industry has spent on special research during the past six years, plus the billions of dollars laid out to preserve high rations of vitamins and minerals in canned foods, can all be nullified "by housewives who do not know about the food values in the fluid part of canned vegetables and, as a consequence, feed their kitchen sinks almost

as well as they feed their own families."

Dr. Cameron called on educators and media of public information to inform women about the preventive measures which are highlighted by the new research program, "so that they will conserve most of the nutrients, protect their families' health, and avoid throwing dollar bills down the kitchen sink.

"The simplest remedy," he said, "is to reduce the liquid portion of canned vegetables to one-half or one-fourth the original volume by heating the nutritive fluid in a sauce-pan, and then serve it along with the solid portion of which the fluid is an intrinsic part, in terms of food value."

In the case of raw food which is cooked at home, the scientist urged housewives to benefit from the protective practices of the canning industry by using no more water for cooking purposes than is absolutely necessary, cooking at temperatures as low as possible, and limiting the cooking-time for each item as much as feasible.

Giving details about the recent findings of research laboratories on the types and amounts of nutrients contained in the fluid as well as the solid portion of canned foods, the scientist pointed out that some of the most essential nutrients may be concentrated in the fluid contents of the can to a degree almost equal with the solid portion, in some cases.

"This is particularly true of such water-soluble nutrients as vitamin C and calcium," he said. "In the case of vitamin C, the average picture is that 40 percent of all the vitamin C in a can of green asparagus, for instance, is contained in the 40 percent of the can contents that is liquid. The situation with calcium is similar, since about 25 percent of it is contained in the liquid portion of a can of green beans."

The situation with regard to the eight principal vegetables consumed in largest quantity is that, on an average, about 35 percent of the total can contents is made up of the fluid portion, while 65 percent is made up of the solid portion.

Dr. Cameron pointed out that, in all types of cooking, certain of the critical vitamins and minerals are dissolved into steam or water. "The great virtue of commercial canning processes," he said, "is that each individual can serves as a pressure cooker and concentrates the dissolved nutrients into a small amount of water that can be further reduced in volume by the individual housewife and served with the solid food in such a way as to conserve the precious food values to the maximum extent."

All canned vegetables, he pointed out, are cooked after being put in the can with just enough fluid for proper cooking, so that better results are obtained than in many types of home cooking where foods are over-cooked or essential nutrients are dissolved into large amounts of water and then become irreclaimable.

The scientist said that, as a result of the nation-wide canned food research program which is being carried out in nine university laboratories, it is now possible to make national estimates on the poundage of vitamins contained in the 1948 canned food pack which will be consumed throughout the calendar year 1949.

"Such rough estimates will serve the most useful purpose," the scientist declared, "if they serve to impress upon housewives the importance of conserving the fluid portions of canned foods, in which the concentration of vitamin values is extremely high."

The essential vitamins contained in the 42 products surveyed, if produced synthetically and sold in the pure state, would cost more than $2,000,000, he said.

National Defense Significance

ARMY FOOD EXPERT COMMENDS RESEARCH OF CANNERS GROUP

Commanding Officer of Food and Container Institute Joins Industry Leaders In Scientific Conference

Reports on a six-year research program to determine the exact nutritive values of various commercially canned foods highlighted a meeting here today of the Board of Directors of the National Canners Association, with military experts and industry leaders jointly hailing newly discovered food data as equally invaluable from a military and from a civilian standpoint.

Reports on the scientific investigation of canned foods, carried out by nine major universities under grants provided by U. S. canners and can manufacturers, were presented to the industry group in executive sessions by a committee of scientists headed by Dr. E. J. Cameron of Washington, D. C., research director of the N.C.A.

Dr. Cameron stated that, during the course of the scientific investigation now under way for six years, the nutritive value of 42 principal types of canned food were tested in terms of vitamin, mineral and caloric values.

At a luncheon meeting at the Palmer House, the special military importance of the new scientific work was emphasized by Lt. Col. Joseph S. Kujawski, commanding officer of the Food and Container Institute of the Armed Forces, Howard T. Cumming, President of the N.C.A., and Dr. C. A. Elvehjem, dean of the Graduate School at Wisconsin University and world-renowned as the discover of the vitamin B element, niacin.

Terming canned food "one of the most important offensive and defensive weapons possessed by the United States," Col. Kujawski said the canning industry's nutritional research program represents "an important advance in our basic knowledge concerning military ration requirements.

"The importance of canned foods in any future conflict, as well as in the peacetime maintenance of our national defense system, can hardly be overestimated," he said. "In World War II about two thirds of the food consumed by our troops came to them in cans. We therefore attach great importance to the new array of scientific facts which we now have available on the minerals, vitamins and other food elements contained in canned foods," he added.

"It seems clear, from the record, that the can manufacturing and food processing industries have played equally important parts in giving America victory in time of war and in helping to bolster our national defense system in peacetime. The research that has been recently carried out by nine leading universities, in cooperation with the industry, serves to emphasize and verify what we had found from practical experience in the past: namely, that military units fed largely on canned foods may be expected to receive caloric and vitamin rations suitable for maintaining their health at the high level necessary for combat," Col. Kujawski declared.

The importance of the industry's nutritional research program was linked to current defense planning activities now being carried out cooperatively by the nation's food packers and government agencies concerned with industrial mobilization.

Current peacetime efforts to prepare advance plans for wartime emergency production of sufficient canned foods were outlined to the industry association's policy-makers by Howard T. Cumming, President of the N.C.A. and a member of the task group of the Food Committee of the National Security Resources Board.

The industry leader explained that, through combining estimates of future

emergency food requirements and balancing these requirements against feasible emergency output and known nutritional values of canned and other foods, a nation-wide plan is being sought which will protect both military and civilian needs in any future emergency.

"In time of war or threatened war our Government invariably turns to the canning industry for help. Uncle Sam recognizes the value of canned foods as an instrument of defense," he said.

"We can be proud of that recognition and still fervently hope that such a call will never again be made on our industry. Nevertheless, in recognition of the world situation, Congress has created a National Security Resources Board. The peacetime function of this Board is to advise the President concerning coordination of military, industrial and civilian mobilization in the event of war.

"A task group of food industry representatives has been formed, and the most important feature of the Resources Board's current planning is the creation of a new Food Division which will undertake to estimate probable food requirements should war break out, based on civilian estimates and the plans of the Joint Chiefs of Staff," he explained. "In making these estimates, our vast new body of information on the vitamin, mineral and caloric values of canned foods will be of inestimable value."

The industry leader emphasized that the six-year research program on canned food values which has been carried out since 1942 was originally a national defense undertaking, inspired by the prevalence of hostilities abroad and the danger that the U. S. might at any moment be plunged into combat.

"In 1940, the operation of the Selective Service system had afforded the first opportunity presented in many years to evaluate the nutritional status of the young men of America. Approximately one-third of the men called for induction showed definite evidence of malnutrition, and many were rejected on this account. This fact, coupled with the necessities for development of adequate Army rations and the improvement of the national level of health, led to the calling of the National Nutrition Conference for Defense in Washington, D. C., on May 26, 1941," Mr. Cumming recalled.

"It can be accurately said that the current National Canners Association-Can Manufacturers Institute nutrition research program was directly inspired by transactions at the 1941 national defense conference. The meeting highlighted the fact that comparatively few quantitative data were available on the nutritive compositions of canned foods. The burden of shouldering the task of carrying out nation-wide research to provide the needed information was immediately shouldered by the canners and can-manufacturers, who put up funds for independent University research now totaling a quarter of a million dollars. The pioneer work that has been done during the past six years means that never again will this country be in the dark about the average nutritive values to be found in canned foods required for improved military and civilian dietaries," the industry leader said.

"Just as the six-year program of research gives housewives the most comprehensive and complete guidance they have ever had on the nutritious values of canned foods, so also the new knowledge will prove of continuing usefulness to military leaders and civilian policy makers, charged with strengthening our national defenses on the food front," he said.

"Napoleon said that an army marches on its stomach," Mr. Cumming said. "The significance of the N.C.A.-CMI nutritional research program is that armies of the United States, notoriously healthy and well-fed largely on a canned food diet, have been placed in a position where the nutritive values provided to them can now be more scientifically measured and controlled than at any time in all history."

The nutritional research program will be continued next year, he said, in close consultation with interested government agencies. Approximately $50,000 will be spent during the next twelve months, Mr. Cumming estimated.

Business Page Significance

UNIVERSITIES AID RESEARCH PROGRAM OF FOOD INDUSTRY

National Canners Association Board Reviews Results of Six-Year, $250,000 Project

A quarter-million-dollar industrial research program, now in its sixth year, was reviewed here today before the Board of Directors of the National Canners Association and was described as "a milestone in industry betterment and public service."

Initiated shortly before Pearl Harbor, with financial support from the canning and can-manufacturing industry, the program of scientific investigation has been carried forward by the research laboratories of nine major universities, making the first nation-wide analysis of the nutritive values of 42 large-volume commercially canned foods.

As described to the Board today by the group's chief scientific adviser, Dr. E. J. Cameron, the results of the research thus far completed "have fully measured up to the vastness of the project itself, since we now know the unimpeachable facts about average nutrient values of the principal canned foods sold throughout the country.

"This information, never before available, not only provides the consuming public with a reliable body of objective data on the caloric, vitamin and mineral content of major canned food items, but also provides a touchstone that will guide future improvements in canning technology for years to come," Dr. Cameron said.

Because of the national defense implications of the research program, the Quartermaster Department, the Surgeon General, the Food and Container Institute of the Armed Forces, and other official agencies have played a major consultative role in shaping the scope and emphasis of the program, Dr. Cameron said.

To date, more than $125,000 of the program's $250,000 budget has been spent on grants to support the research.

The research is still underway, with principal emphasis on canning processes and the amino acid content of major canned products. Approximately $50,000 is scheduled to be spent during the next year, with the Universities of Wisconsin, Cornell, Michigan State College and University of California at Los Angeles carrying forward current phases of the work.

Dr. Cameron joined with Howard T. Cumming, President of the N.C.A., in emphasizing that the favorable effect of the university research upon public understanding of canned food nutritional values would tend to further increase U. S. consumption of canned foods, even beyond the estimated 1948 figure of more than 20 billion cans.

Recapitulating the results accomplished by the research program during the past six years, Dr. Cameron said that average net-after-processing nutritive values were surveyed for

fats, carbohydrates, and proteins; for calcium, iron and phosphorus; for vitamin C, vitamin A, and four of the B-vitamins (thiamin, niacin, riboflavin and pantothenic acid).

Other phases of the research covered the effect of storage temperatures on preservation of nutrients, and analysis of the extent to which nutrients contained in canned food solids are dissolved into the fluid content of the can.

Universities participating in the nation-wide research during the past six years were listed as follows:

University of Arizona, Tucson, Ariz.; University of California at Los Angeles; University of Chicago; University of Maryland, College Park, Md.; Michigan State College, East Lansing, Mich.; New York State Agricultural Experiment Station, Cornell University, Geneva, N. Y.; Pennsylvania State College, State College, Pa.; University of Texas, Austin, Tex.; and University of Wisconsin, Madison, Wis.

Thirty-six scientists and technicians took part in the work, and some 40,000 assays were made of more than 50,000 cans of food drawn from the normal output of 526 different canneries.

All major growing areas were included in the hundreds of samples tested, and seasonal variables were carefully noted through selection of packs representing early season, mid-season and end-of-season operations.

Dr. Cameron said that all principal categories of unformulated canned foods were covered by the research, including representative products from the fish, vegetable, fruit and fruit juice packs.

The specific products tested thus far have been:

Fruits—apricots, blackberries, blueberries, red cherries, grapefruit sections, clingstone peaches, freestone peaches, pears, pineapple, and purple plums; juices—grapefruit juice, orange juice, pineapple juice, and tomato juice; vegetables—white asparagus, green asparagus, baked beans, green cut beans, lima beans, beets, carrots, cream style white corn, cream style yellow corn, whole kernel white corn, whole kernel yellow corn, mushrooms, Alaska peas, sweet peas, sweet peppers, pimientos, sauerkraut, spinach, sweetpotatoes, tomatoes, and turnip greens; and fish—mackerel, salmon, sardines in oil, sardines in tomato sauce, dry pack shrimp, wet pack shrimp, and tuna.

Science Significance

$250,000 RESEARCH STUDY OF CANNED FOODS NOTED HERE

Project Reported to Food Group Hailed by C. A. Elvehjem, B-Vitamin Discoverer

A six-year, nation-wide program of scientific research into the nutrient values of canned foods was described here today as "providing more knowledge about canned food nutritive values than had become known since the discovery of vitamins at the turn of the century."

The research, initiated before Pearl Harbor, and carried on in the laboratories of nine leading universities by such top-ranking scientists as Dr. C. A. Elvehjem, discoverer of niacin, was so summarized by Dr. E. J. Cameron of Washington, D. C., Research Director of the National Canners Association, in a report to the Board of Directors of the Association at the Palmer House.

The laboratory findings revealed for the first time on a national scale the content of canned foods in terms of calories, proteins, carbohydrates, fats, vitamins A and C, four of the B-vitamins (thiamin, niacin, riboflavin, and pantothenic acid) as well as such minerals as iron, phosphorus and calcium.

In discussing the importance of the research and its findings, Dr. Cameron said, "The new knowledge unearthed by the research program enables homemakers, military officials and institutional dietitians for the first time in history to use canned foods on a day-to-day basis with complete data on the vitamins, minerals and calories to be found in more than 40 different canned foods that are consumed in largest quantities."

At a luncheon held in conjunction with the meeting of the National Canners Association, Dr. Elvehjem commented on the significance of the research program and the progress in nutritional knowledge which has been made.

"I believe it is accurate to say," he asserted, "that the canned food nutritional research which has been sponsored by the canners and can manufacturers of the United States is one of the most comprehensive and valuable programs of scientific investigation that has ever been undertaken in the processed food field. The findings which have been developed represent a very real contribution to the public welfare as well as to the technological advancement of the canning industry."

Highlights of the new nutritional knowledge clarified by the research program were outlined today as follows:

1. High ratios of vitamins, minerals and calories are retained in canned foods packed for standard commercial use.
2. Normal dietary requirements for nutritional factors supplied by cooked foods of various types may be met through selective use of canned foods with special characteristics in terms of caloric, vitamin and mineral content.
3. On-the-spot scientific processing of fresh products, as practiced in the commercial canneries, plus application of standardized quality control methods, retains relatively large amounts of essential nutrients, in contrast with many types of home cooking which disperse nutritive elements or destroy essential elements by over-heating. The research illustrates the fact that a can actually functions as a miniature pressure cooker.
4. Protection of heat-sensitive nutritive elements, notably thiamin and vitamin C, may be fostered indefinitely in canned foods by avoidance of high-temperature storage conditions.
5. New nutrient tables, showing precise national averages for 42 staple products most widely in demand, provide the soundest basis for controlled medical and institutional use of canned foods that has thus far been developed.
6. Notable improvements in food-research methods have been effected, through development of standardized techniques to compensate for seasonal and geographic variables and eliminate non-uniformity of research methods (a weakness that has limited the reliability of past research data on both canned foods and raw foods).
7. Home economists, upon whom millions of American women rely for diet guidance, now have available scientifically proven food composition tables for use in selecting canned foods with differing characteristics in terms of caloric content as well as vitamin and mineral characteristics.
8. Detailed information is now available to guide homemakers on the most efficient and economical use of canned foods, through avoidance of home preparation methods which waste essential nutrients. Example: A large percentage of the nutrient value of canned foods has been proved to be contained in the liquid portion, hence the need for housewives to reduce the liquid portion of vegetable foods to one-fourth the original volume and serve the concentrated liquid along with the solid portion.

Some of the procedural highlights of the six-year research program were summarized at today's meeting as follows:

1. The scientists in charge of the overall research were enabled to make their technical analyses through more than $125,000 in grants advanced to date by the National Canners Association and the Can Manufacturers Institute. Their findings have been independently made and summarized in 33 papers accepted for publication in recognized scientific journals.
2. The research institutions which have participated in the program include those at Cornell University, Pennsylvania State College, University of Arizona, University of California at Los Angeles, University of Chicago, University of Maryland, Michigan State College, University of Texas, University of Wisconsin.
3. A total of more than 40,000 assay-tests were applied by the participating laboratories over the six-year period since the studies were initiated in the summer of 1942.
4. More than 50,000 cans of food were used in the analyses made during the course of the investigations.
5. The food samples used for the determination of vitamin and mineral content during 1942 and 1943 were obtained from regular production. In 1942, 243 canneries were sampled, and in 1943, 283, a total of 526. These were located in all parts of the country. Careful scientific control-methods were followed, to insure inclusion of early season, mid-season, and end-of-season items in each category investigated.
6. Altogether, 42 standard types of canned foods were assayed for nutrient content. Selection of the individual types of food to be investigated was based on importance in terms of volume of consumption. Importance from the standpoint of wartime feeding was also used as a yardstick, where applicable. The items tested were:

   Fruits — apricots, blackberries, blueberries, red cherries, grapefruit sections, clingstone peaches, freestone peaches, pears, pineapple, and purple plums; juices—grapefruit juice, orange juice, pineapple juice, and tomato juice; vegetables—white asparagus, green asparagus, baked beans, green cut beans, lima beans, beets, carrots, cream style white corn, cream style yellow corn, whole kernel white corn, whole kernel yellow corn, mushrooms, Alaska peas, sweet peas, sweet peppers, pimientos, sauerkraut, spinach, sweet potatoes, tomatoes, and turnip greens; and fish—mackerel, salmon, sardines in oil, sardines in tomato sauce, dry pack shrimp, wet pack shrimp, and tuna.

Letter Will Report Meetings of Board, Council, Committees

The next issue of the INFORMATION LETTER will report fully to the membership on the meetings of the Board of Directors, Administrative Council, and certain Committees, that were held in Chicago November 10-12. The issue will be published as soon after this week end as possible.

7. A total of more than 35,000 man-hours of scientific and technical talent were consumed by the participating universities, with 36 scientists and technicians taking part in the work.

Important current phases of the research are still under way. One segment of the current research has to do with canned-food protein values in terms of amino acids. Certain amino acids are essential to life and health, and are considered equal in nutritional importance with vitamins, minerals, fats, carbohydrates and proteins.

The research program will continue during 1949, involving an expenditure of approximately $50,000. Universities now participating include U.C.L.A., Cornell, Michigan and Wisconsin.

History of Modern Nutritional Research

Modern research into the nutritional values of food dates from about 1900, and was instigated by the belief that other factors besides protein, carbohydrate, fat and mineral content of food might be involved in the nourishment of the animal body. By 1923, research into the subject was well under way in this country and abroad. In that year a collaborative program of the National Canners Association and Columbia University was initiated. It continued until 1937, with emphasis on canned foods.

Compilations of data obtained in these researches indicated, however, that because of lack of close controls and other factors, much of the information was of limited value, since at that time the methods of estimating vitamin values had not been developed to the more accurate methods now in use on the six-year-old program reported today.

Present Research Program Begun

In May, 1941, the President of the United States called the National Nutrition Conference, which brought to the attention of the canning industry and food industry as a whole, the fact that there was a great paucity of reliable information about the nutritive value of foods. As an outgrowth of the conference, the National Canners Association and the Can Manufacturers Institute agreed to share the expenses of the present research program to find out the modern nutritional facts about canned foods.

The research was put into the hands of scientists connected with leading university laboratories with experience in the nutrition field, and the scope of the research was designed to include the nutritive values of commercially canned foods as now manufactured and also to determine what improvements might be made in the present practices in the canning industry to retain the maximum possible nutrients that are present in the raw materials.

Nutrition Findings Revealed

Among the factors which entered into this research were such variables as the geographical location of the growing area, the size of the cans used in the processing, harvesting period and the length of time from harvesting to processing. The samplings were so large as to allow for all these variables, permitting for the first time in history a nation-wide averaging of the nutrients in canned foods.

Essential Proximate Food Values Also Studied

The N.C.A.-CMI program also undertook to develop the proximate values in canned foods (fats, proteins, carbohydrates). From a statistical analysis of the results of these investigations, a classification of the canned foods with respect to the proximate and mineral components was set up.

Other Findings

The research confirmed what has long been known by biochemists and dietitians: that the liquid material in cans of food contains a valuable percentage of the total vitamins and minerals to be found in the food. To provide more definite information on this phase, additional studies were initiated.

Studies have been made of two methods of serving canned foods, one retaining and using the fluids and the other discarding the fluids as is commonly done by housewives. The Home Economics Department of the National Canners Association has recommended the fluid retaining method. The Department has also devised menus which make use of the new information, to aid housewives in supplying their families with balanced diets illustrating representative uses of canned foods.

Future Research

Future research on canned foods projected under the nutrition program will involve methods to establish the maintenance of retention of the vitamins and minerals during canning processes. Also under intensive research at the present time is the amino acid content of various types of canned food.

Women's Page Significance

NUTRITIVE VALUES IN CANNED FOODS AID FAMILY DIETS

Work of Nine Universities Over Six-Year Period Is Incorporated Into New Menus

The age-old problem of how to feed a family a properly balanced diet was closer to solution today with the publication of special menus set up by the Home Economics Department of the National Canners Association to take advantage of newly discovered facts about canned foods.

The new nutrition knowledge, arrived at after six years of scientific research at nine leading universities throughout the country, consists of the most accurate and comprehensive information ever made available on the vitamin, mineral and caloric values of 42 popular fruits, vegetables and sea foods.

The research which brought this information to light for the first time is being sponsored by the National Canners Association and the Can Manufacturers Institute, and is being carried out by such top-ranking scientists as Dr. C. A. Elvehjem of Wisconsin University, discoverer of the essential B-vitamin called niacin. More than a quarter of a million dollars has been set aside for the research, which is continuing.

The information revealed in this research allows a woman to know within accurate limits just what vitamins and minerals and caloric values—all essential to the well-being of her family—she is supplying to each member of her family when she serves canned foods.

Also re-emphasized by the research program was the fact that many women today are wasting untold amounts of the nutrients they buy in fresh foods, through overcooking or dissolving nutrients in large amounts of water. The new scientific work illustrates how careful the canners are to limit the amount of heat, the amount of water, and other factors that affect food value—transforming every can, in effect, into a miniature pressure cooker in which a high level of food value is captured. The scientists advised homemakers to study the research findings and improve home-cooking methods by using no more water than necessary, and limiting the cooking time for each item as much as feasible. They also urged the use of a minimum amount of heat and water, as is done in commercial canning in order to retain maximum food values.

The research brought to light the fact that in many of the canned foods investigated, the liquid which is in the can holds a great deal of the vitamin and mineral material. This means that if women using canned foods throw the juices away, they are actually throwing away vital ingredients which their families need for health.

In an effort to combat this waste, the Home Economics Department of the N.C.A. has recommended several methods of using these juices to best advantage. The most important one consists of pouring the liquid into a saucepan, heating it slowly until it has been reduced to about one half to a quarter of the original volume, and then putting the solid food from the can into the liquid for heating. Both the solid and the fluid should be consumed, these experts say, in order to get the most nutritive value out of the canned foods.

Other ways in which the fluids can be used, the dietitians said, is to save them and serve them as a special appetizer or to incorporate them into sauces, such as cream sauce or gravies. These juices, when added to soups, also contribute toward improved flavor.

In many cases it is possible to supply all or a large part of a person's requirement of a vitamin by serving a portion of a certain canned food. For example, one hundred grams (that is, roughly a half cupful, or normal serving) of canned spinach supplies a little more than all of the daily requirement of carotene, the provitamin which is converted by the body into vitamin A. One serving of tuna will supply 68 percent of a person's requirement of niacin, one of the B vitamins.

The new menus devised by the Home Economics Department of the National Canners Association are for the average family and assure the approved amount of the essential foods to maintain health.

Supplies of Canned Fruits

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As usual, the domestic pack of canned fruits will be supplemented by substantial shipments of canned pineapples from Hawaii, and by imports of canned pineapple, olives in brine, and minor quantities of miscellaneous fruits from other countries, according to BAE.

Total supplies in the 1948-49 season will be about as large as in the season just concluded, the report continues, and exports are expected to be down and military procurement up slightly. Supplies available to civilians probably will permit per capita consumption to continue at an annual rate of about 19 pounds.

Supplies of Canned Juices

The 1948-49 pack of canned citrus juices may be as large as the record 1947-48 pack, and it may even exceed it, BAE predicts. The 1947-48 pack was about 2 billion pounds, or the equivalent of about 69 million cases of 24 No. 2 cans, including concentrated juice on a single-strength basis but not frozen.

With a record-large crop of early and midseason oranges in prospect for 1948-49 and the probability of a record or near-record Valencia crop, large supplies again will be available for processing, mostly in canned juice. A substantial increase also will occur in frozen juice, according to BAE.

Although the 1948-49 grapefruit crop is about 10 percent smaller than the 1947-48 crop, there probably will be available for processing as large a tonnage as actually was so utilized in the 1947-48 season, when about 11 percent of the crop was not utilized because of low prices, the BAE report adds.

With retail prices at or near the relatively low prices of the season just closing, demand probably would be strong enough in the season ahead to move into consumption another pack of 69 million cases of canned citrus juices, it was said.

The 1948-49 pack of canned non-citrus juices probably will be nearly as large as the 1947-48 pack, and probably will constitute about one-fifth of the total 1948-49 pack of canned fruit juices, BAE reports. Shipments of canned pineapple juice from Hawaii are expected to be about as large as in the 1947-48 season. Supplies of all canned fruit juices available for domestic consumption in 1948-49 will permit per capita consumption of about 17 pounds, slightly higher than in 1947-48.

STATISTICS

Green Lima Bean Prospects Favor Above Average Crop

The preliminary estimate of the 1948 production of green lima beans for canning, freezing and other processing is 67,620 tons, according to the Bureau of Agricultural Economics. This exceeds the 1947 production of 55,700 tons by about 21 percent and is more than twice the 1937-46 average of 31,930 tons.

The 1948 planted acreage is estimated at 86,800 acres. This compares with 87,730 acres planted in 1947 and the 10-year average plantings of 61,480 acres. The 1948 harvested acreage is placed at 83,000 acres, which compares with 80,740 acres harvested in 1947 and 56,540 acres for the 10-year average. Loss of acreage planted this year was only about 5 percent.

The 1948 estimated yield of 1,629 pounds per acre compares with 1,380 pounds obtained in 1947 and 1,126 pounds for the 1937-46 average. Better than average yields were obtained in all important States.

Harvested acreage and production of green lima beans for 1947 and 1948, by States, were reported by BAE as follows:

State	Harvested acreage		Production	
	1947	1948	1947	1948
	Acres		*Tons (shelled)*	
New York	1,000	1,100	850	550
New Jersey	16,700	14,200	11,770	9,940
Pennsylvania	4,400	4,000	2,350	2,480
Ohio	810	800	320	360
Michigan	2,300	3,000	520	1,500
Wisconsin	4,800	5,400	2,400	3,620
Delaware	13,900	14,500	9,730	9,420
Maryland	3,700	3,500	1,910	2,620
Virginia	3,000	3,400	1,280	2,350
Utah	100	0	70	.....
Washington	800	1,200	720	980
California	15,270	20,000	17,940	24,000
Other States[1]	13,960	11,900	5,840	9,600
U. S. Total	80,740	83,000	55,700	67,620

[1] Ark., Colo., Ga., Idaho, Ill., Ind., Iowa, Kans., La., Minn., Miss., N. C., Okla., Ore., and Tenn.

Harvest of Georgia Pimientos Now Indicated at 15,500 Tons

A harvest of 15,500 tons of pimientos for processing in Georgia is estimated for 1948 by the Bureau of Agricultural Economics. This 1948 production compares with 15,680 tons estimated for last year and the 10-year average production of 14,300 tons.

The 1948 yield of 1.08 tons per acre in Georgia compares with .98 tons obtained in 1947 and 1.10 tons for the 1937-46 average. Up until the end of October, southern counties in the State had escaped severe frosts and harvesting was still in progress.

Cucumber Pickle Production Only Slightly Below 1947

The 1948 production of cucumbers for pickles was 5 percent less than the 1947 crop but about a third more than average, according to the Bureau of Agricultural Economics. The yield per acre, estimated at 79 bushels is only one bushel less than the record high 1947 yield but is 7 percent above average.

The preliminary estimate of acreage harvested this year is 122,930 acres, 3 percent less than the 1947 harvested acreage but 26 percent above average. The revised estimate of acreage planted is 135,080 acres—5 percent less than the 1947 plantings but about a quarter above average. Loss of 1948 planted acreage amounts to about 9 percent which is about in line with the average abandonment.

These estimates of cucumbers for pickles include pickles sterilized in glass or tin containers but do not include green cucumbers processed as "over night" and similar type pickles.

Harvested acreage and preliminary production of cucumbers for pickles for last year and this year, by States, were reported by BAE as follows:

State	Acreage		Preliminary production	
	1947	1948	1947	1948
	Acres		*1,000 Bu.*	
Massachusetts	860	670	126	66
New York	1,100	1,400	87	84
Ohio	2,800	2,300	207	221
Indiana	7,300	4,400	321	304
Illinois	1,000	1,000	48	36
Michigan	35,600	40,000	2,172	2,400
Wisconsin	19,900	20,400	1,950	1,714
Minnesota	1,600	1,800	141	160
Iowa	600	700	25	55
Missouri	900	800	32	40
Maryland	5,800	4,000	505	384
Delaware	1,100	1,400	91	88
Virginia	6,400	4,400	518	224
N. Carolina	7,400	7,900	644	569
S. Carolina	1,900	1,500	141	122
Georgia	6,000	4,000	354	244
Louisiana	830	430	58	15
Texas	4,300	3,400	280	228
Colorado	2,300	2,700	430	518
Washington	600	1,100	146	169
Oregon	1,000	1,100	212	121
California	2,020	2,830	697	863
Other States[1]	15,980	15,000	1,078	1,084
U. S. Total	127,290	122,930	10,233	9,711

[1] Ala., Ariz., Ark., Conn., Fla., Kans., Ky., Me., Miss., Nebr., N. J., Okla., Pa., S. Dak., Tenn., and Utah.

Family Expenditures for Food

Of the money spent by moderate-income families for all foods, 3.1 percent is spent for canned fruits and vegetables, according to a survey of 12 metropolitan cities by the Bureau of Labor Statistics.

This computation represents the situation in December 1947, but is used today by BLS in its monthly "cost of living" retail price indexes. BLS statisticians say that the prices of commodities selected for this computation have been stable enough to provide a true picture of the price relationship today.

In relation to expenditures for all "cost of living" items (total income less savings and taxes) the Bureau of Labor Statistics found that 1.3 percent was spent for canned fruits and vegetables, whereas 8.7 percent was spent for all fruits and vegetables, and 42 was spent for all food.

Invitations to Bid

Quartermaster Purchasing Offices—111 East 16th Street, New York 3, N. Y.; 1819 West Pershing Road, Chicago 9, Ill.; Oakland Army Base, Oakland 14, Calif. (Western Branch).

Veterans Administration—Procurement Division, Veterans Administration Building, Washington 25, D. C.

The Walsh-Healey Public Contracts Act will apply to all operations performed after the date of notice of award if the total value of a contract is $10,000 or over.

The Army has invited sealed bids to furnish the following:

CANNED CHERRIES (RSP)—750 dozen No. 10 cans. Bids due at Chicago under serial No. QM-11-183-49-547 by Nov. 16.

CANNED CHERRIES (RSP)—27,188 dozen No. 10 cans. Bids due at Chicago under serial No. QM-11-183-49-590.

CANNED CARROTS—30,434 dozen No. 2 cans. Bids due at Chicago under serial No. QM-11-183-49-581 by Nov. 17.

CANNED TOMATOES—28,046 dozen No. 10, 102,172 dozen No. 2½, or 150,550 dozen No. 2 cans. Bids due at Chicago under serial No. QM-11-183-49-591 by Nov. 17.

CANNED SALMON—4,788 dozen No. 1 cans, red or pink. Bids due at Oakland under serial No. QM-04-493-49-126 by Nov. 17.

CANNED BEANS WITH PORK—41,764 dozen No. 2½ cans. Bids due at Chicago under serial No. QM-11-183-49-570 by Nov. 18.

CANNED TOMATOES—962 dozen No. 2 cans. Bids due at Chicago under serial No. QM-11-183-49-567 by Nov. 19.

CANNED TOMATO JUICE—5,895 dozen 46-oz. cans. Bids due at Chicago under serial No. QM-11-183-49-582 by Nov. 19.

CANNED SOUPS—170,112 10½-oz. cans each of chicken noodle, cream of mushroom, cream of pea, tomato, and vegetable-beef soup. Bids due at Chicago under serial No. QM-11-183-49-578 by Nov. 23.

CANNED SWEETPOTATOES—108,138 dozen No. 2½ cans. Bids due at Chicago under serial No. QM-11-183-49-583 by Nov. 23.

CANNED SALMON—64,544 dozen No. 1 cans of pink, 107,576 dozen No. 1 cans of coho, and 43,036 dozen No. 1 cans of red salmon. Bids due at Oakland under serial No. QM-04-493-49-131 by Nov. 30.

Army Contract Awards

Canned Tomato Paste—Awards under Bid No. QM-04-493-49-94 were made by Oakland on 7,992 dozen No. 10 and 37,976 dozen 6-oz. cans.

Canned Figs—Awards under Bid No. QM-04-493-49-106 were made by Oakland on 150,222 dozen No. 2½ cans.

Canned Berries—No awards were made by Oakland under Bid No. QM-04-493-49-99.

Canned Salmon—Awards under Bid No. QM-04-493-49-107 were made by Oakland on 63,760 dozen No. 1 cans.

Canned Cherries—Awards under Bid No. QM-11-183-49-452 were made by Chicago on 10,288 dozen No. 2 and 9,979 dozen No. 10 cans.

Canned Carrots—Awards under Bid No. QM-11-183-49-473 were made by Chicago on 141,000 dozen No. 2 cans.

Canned Corn—Awards under Bid No. QM-11-183-49-449 were made by Chicago on 41,324 dozen No. 2 cans.

Canned Sweetpotatoes—Awards under Bid No. QM-11-183-49-530 were made by Chicago on 1,360 dozen No. 2½ cans.

Seek Quality Canned Foods

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meeting of the Florida canners. In line with N.C.A. custom, the press releases also were made available to the working press present at these State canners meetings.

Mr. Cumming made his observation November 8 in a review of the canning industry's business accomplishments in marketing and merchandising of last year's pack. The consuming public, he told the Wisconsin canners, was able to take a pack of a size that before the war might have caused the industry acute distress. He gave the following explanation of the fact that the canners' merchandising year has been "probably better than an average prewar year:

"We have had a 10 percent increase in population. The prices of canned foods have been low in relation to the prices of other foods. Our people have enjoyed the highest spendable income in their history. They are eating more food per capita than before the war. Being employed, they require more food that is easily prepared. And I like to believe there has been a stepping up of the average quality of canned fruits and vegetables. Certainly there has been plenty of evidence that our people are buying more high quality canned food than they used to. This has been a strong incentive for us to improve quality. So it isn't difficult to understand how we have been able to successfully market packs that to some looked burdensome when the season began."

Looking ahead to the merchandising of this year's pack and the production of next year's, Mr. Cumming urged the industry to proceed with both caution and courage.

"We entered the 1948 packing season with a substantial carryover of some items," he asserted. "Generally speaking, we had a good growing season and it is reasonably certain that some of the packs are going to be close to past high records. Some food products have caught up with demand, and price declines may narrow the spread which has given us an advantage in competition with some of the other types of food that have risen high in today's cost-of-living indexes. It is true that the Government price support program is designed to prevent any sharp declines, but there are many who believe that in the face of big surpluses it may fail in its purpose. Many distributors are not showing the rate of sales increases they did a year ago."

Against these developments the speaker pointed to the unprecedented high levels of employment in America (now running over 60,000,000 people gainfully employed), the largest civilian production yet recorded, the probably large defense budgets, the continuance of the European Recovery Program, and other factors that sustain a high level of employment and purchasing power.

"All of this suggests that the job of the individual canner these days is even more difficult than it was in prewar years," Mr. Cumming said. "It makes clear beyond doubt that in planning his production, the canner must be ever on the alert as to what is going on in this country and perhaps throughout the world. He must always be up to date both in his information and his thinking."

Labeling Film Shown

Happer Payne, Director of the N.C.A. Labeling Division, presented the premier showing of the color motion picture entitled "Better Labels," which describes the continuing work of the canning industry to develop better and more informative labels for consumers, and points out to canners that the more completely the label supplies information for shoppers, the greater will be the customers' satisfaction and the well-being of both canner and consumer.

"Labeling is so important to each individual canner and distributor that he should give his own labels careful study remembering to show brand and product prominently for quick shelf identification, descriptive label terms leading shoppers to brands they will like, and informal kitchen talk helping everyone," the motion picture declares.

Adequate labeling, the film points out, includes not only brand name, statements about style of pack and sweetness of syrup, quantity expressed in terms of cupfuls, and number of pieces or servings, but also standard, organized labeling terms which describe quality characteristics of the products inside the can.

Labeling is so vital to everyone, the motion picture states, "that the National Canners Association undertook the initiative in developing a systematic but voluntary labeling program for fruits and vegetables. Of course, each product has its own characteristics which are separately studied and considered. In some cases, research among consumers has been employed to choose words which are most readily understood by homemakers. Standardized descriptive words identify major characteristics."

The film notes that "even though any experienced canner or distributor can apply the voluntary labeling to his own labels, suitable laboratory tests are set up for each label term which assure reliability for the consumer, and to protect the canner and distributor who properly uses them. Scientific research is continuing and when measurement methods are found for more factors for more products, further labeling recommendations will be made."

Other N.C.A. representatives on the Wisconsin program were Miss Katherine R. Smith, Director of the Home Economics Division, who presented an account of consumer education work in canned foods, and Dr. Charles H. Mahoney, Director of the Raw Products Bureau, who described the highlights of the recent conference in Chicago on pea aphis.

NEW ASSOCIATION MEMBERS

The following firms have been admitted into membership in the Association since September 25, 1948:

H. F. Byrd, Inc., Winchester, Va.

Cecil's Food Processing Co., P. O. Box 51, Milford, Ind.

W. E. Davis Co., Star Route, Aberdeen, Wash.

Lebanon Packing Co., Inc., P. O. Box 386, Lebanon, Ore.

Port Penn Canning Co., Port Penn, Del.

Wood Canning Co., Route No. 2, Dobson, N. C.

FOREIGN TRADE

FAO Survey of World's Food Calls for Greater Production

Published on the eve of the 57-nation FAO Conference to open in Washington November 15, a survey of food and agriculture by the Food and Agriculture Organization of the United Nations calls for higher food production in all countries, including the United States.

The higher food production may be accomplished, the FAO report declares, through adoption of a number of continuing regional and national programs, including the bringing of new land into use, greater development of the world's fishery resources, price protection for farmers, and the stopping of soil losses.

The report, entitled *The State of Food and Agriculture 1948*, states that the four main exporting countries, the United States, Canada, Australia and New Zealand, "although technically among the most advanced in the world, can still expand production under favorable circumstances.

"But there is evidence of caution, of a tendency to hold back on plans for expansion until there is a greater certainty that export markets can be found for the surplus products. The question is not whether the need will be there. It is, rather, can those who need the food pay for it?" the report continues.

"Compared with prewar, the share of the Western Hemisphere in world food exports has risen from 40 to 70 percent. It is this violent shift in sources of supply which constitutes food and agriculture's share of the dollar problem."

Of the world's fishery resources, the FAO survey reports:

"The world's fishery resources are only partially developed. The great bulk of the world's fish supply is at present caught in relatively small areas of the North Atlantic and North Pacific. The waters around Africa, Latin America, and South Asia have yet to be investigated to ascertain their yield capacity. Nor should the development of new freshwater fisheries be overlooked, especially in connection with irrigation projects."

Noting that "a number of governments already have programs of guaranteed prices for the principal farm products," the report says that "to stress this matter of agricultural prices at a time when world food prices stand so high may seem inappropriate, but the very height to which prices have risen makes farmers apprehensive of the depth to which they may fall, and fearful that investments undertaken now may turn out to be quite unprofitable in five or ten years' time."

Factors outstanding in the current world-wide food shortage, according to FAO, include a greater war damage in Europe and Asia than was originally estimated and the inflationary situation resulting from an inadequate supply of consumption goods to meet purchasing power.

MEETINGS

Food Technologists Meet

The national convention of the Institute of Food Technologists will be held in the Civic Auditorium in San Francisco July 10-14, 1949.

Processing Low-Acid Foods

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tions is necessary for the best use of the bulletin and is essential for the correct interpretation and proper use of the processes.

Following the list of processes is an appendix which gives information regarding sources of spoilage contamination and its control, the significance of sugar and starch containers in the cannery.

PUBLICITY

Canning Technology Described In Industrialists' Bulletin

"They Call It Canning" is the title of an illustrated article appearing in the October issue of *The Hajoca Commentator*, a publication for industrial executives issued by the Hajoca Corporation of Philadelphia, manufacturers of brass products.

After tracing the historical development of the canning process and of the modern tin can, the article describes the geographical distribution of the industry in large and small communities, and explains seasonal and non-seasonal operations, with some emphasis placed on the employment provided for cannery work and in allied industries. The basic processing operations common to all products are listed, and special problems in the processing of certain fruits and vegetables are explained.

The development of the thermocouple by researchers of the National Canners Association, the article declares, "is typical of the canning industry's tireless and unceasing effort to improve methods and provide the American public with the absolutely finest and purest of canned foods."

Hajoca Corporation distributes 1,200 copies of the publication to its own engineering and sales organization, and an additional 5,300 copies to engineers and other industrialists in all fields in the East.

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